

Claims

- [c1] 1. An information processing system and method for planning, design, and implementation of Web-based data integration, distributed query processing, and distributed transactions management, comprising:
 (a)A software solution that includes an XML-based middleware for developing Web-based distributed applications.
 (b)A programming model that defines the underlining architecture.
 (c)A Graphical User Interface (GUI)-based tool kit that supports installation, customization, and administration of the Web-based applications under this architecture.
- [c2] 2. The information processing system and method of Claim 1 wherein said software solution consists of an XML-based standard for data sharing and the corresponding in-memory data structure.
- [c3] 3. The software solution of Claim 2 wherein said XML-based standard serves as the global schema for the distributed environment and the transfer syntax for data exchange among the participating sub-systems in this environment.
- [c4] 4. The software solution of Claim 2 wherein said XML-based standard defines the transfer syntax for marshaling the objects of in-memory data structure over the Internet.
- [c5] 5. The software solution of Claim 2 wherein said in-memory data structure is a relational data representation for local manipulation in disconnected mode. Under this construct, the participating sub-system may share data in the way that they have agreed upon.
- [c6] 6. The software solution of Claim 2 wherein said in-memory data structure is a class and objects as its instance may be taken by web services as arguments and may be returned by web services.
- [c7] 7. The software solution of Claim 2 wherein said XML-base standard and corresponding in-memory data structure are equivalent. That is, the data elements in the XML message that follows the standard, and those reside in the in-memory data structure may be seamlessly converted back and forth. This

